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**Declaration under Rule 4.17:**

— of inventorship (Rule 4.17(iv)) for US only

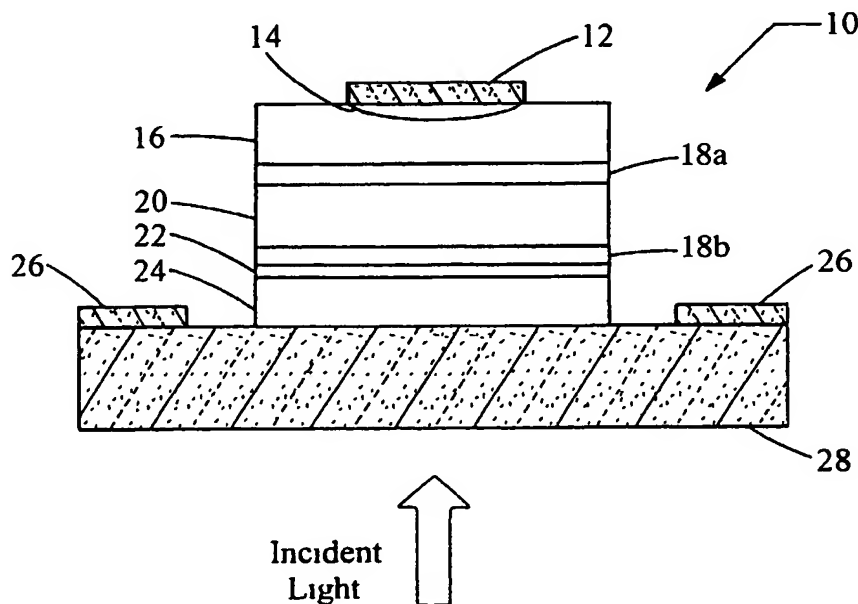
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(54) Title: PLANAR AVALANCHE PHOTODIODE



(57) Abstract: The present invention includes a planar avalanche photodiode (10) having a first n-type semiconductor layer (28) defining a planar contact area, and a second n-type semiconductor layer (16) having a p-type diffusion region (14). Further features of the structure include an n-type semiconductor multiplication layer (24), an n-type semiconductor absorption layer (20), and a p-type semiconductor layer (32) electrically coupled to a p-type contact layer (12).

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# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/03323

<b>A. CLASSIFICATION OF SUBJECT MATTER</b> IPC(7) : H01L 31/072, 31/109, 31/0328 US CL : 257/183, 183, 185, 186, 190, 191 According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b> Minimum documentation searched (classification system followed by classification symbols) U.S. : 257/183, 183, 185, 186, 190, 191 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched None Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) Please See Continuation Sheet		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,552,629 A (WATANABE) 03 September 1996 (03.09.1996), see entire reference.	1-30
Y	US 4,840,916 A (YASUDA et al. ) 20 June 1989 (20.06.1989), see entire reference.	1-30
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.		
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Date of the actual completion of the international search 30 June 2003 (30.06.2003)		Date of mailing of the international search report <b>10 SEP 2003</b>
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703)305-3230		Authorized officer Minhloan T. Tran <i>Dian Smith</i> Telephone No. (703) 308-4919

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**Continuation of B. FIELDS SEARCHED Item 3:**

East search

avalanche photodiode or avalanche photodetector, multiplication layer, absorption layer